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# INTEROFFICE CORRESPONDENCE

DATE: October 8, 1992

TO: A. L. Schubert, Waste Permit & Compliance, T130C, X5251

FROM: E. M. Lee, Solar Ponds Remediation Program, Bldg. 080, X8523

SUBJECT: ALTERNATIVE STRATEGIES TO SOLAR PONDS REMEDIATION - EML-110-92

The Solar Evaporator Ponds Remediation program is in immediate need of restructuring due to various weaknesses in planning assumptions and other issues. We are currently expecting to miss the November 8 date for startup of the Halliburton sludge solidification process, plan on starting the process next spring at the earliest, and expect to miss at least two IAG milestones.

Yesterday, my staff met with Scott Surovchak (DOE, RFO) and Autar Rampartaap (DOE, EM 40) and others to discuss alternatives for pursuing the solar ponds cleanup. The notes from that meeting are attached. While your staff has been very cooperative in providing information and assistance, I am requesting their support formally. I would like to involve your staff in our evaluations so EG&G can offer a sound and unified recommendation to DOE, HQ in November. Kathy London (extension 8585, page 3814) is the point-of-contact on my staff for regulatory issues.

My immediate need is to develop a clear, definitive paper on all the major regulatory issues relevant to the Solar Ponds Remediation Program. I need a draft by COB Monday, October 12.

Please contact Kathy to discuss how to achieve the needed support. I am looking forward to establishing a closer working relationship between the program office and your staff.

cc
S. A. Anderson
W. M. Bruninga
P. W. Edrich
K. C. London

ADMIN RECORD

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# Solar Ponds Program Strategy/Options

(brainstorming session with EG&G, RFO, and DOE HQ (Autar Rampertaap) October 7, 1992

I. Objectives

A. Comply with RCRA

B. Minimize IAG milestone slippages

C. Clean the sludge out of the ponds

D. Show our best effort

E. Minimize program cost

II. Assumptions/Guidelines

A. Shipment to Nevada

1. No shipments to NTS until Dec 1997 (FY98).
2. There is even some possibility that the state of Nevada may never allow our mixed waste to be shipped there

B. The waste acceptance criteria (WAC) are uncertain and may change, leaving our cemented, stored pondcrete and saltcrete outside the envelope of acceptance criteria

C. All options should include:

1. RCRA compliance
2. Repackage to stack higher and create more aisle space or permit additional storage area or pad space
3. Cease the LDR violation caused by pumping the Interceptor Trench System water into the ponds (B north)
4. Emptying the ponds or otherwise removing the pond sludge as a source of continued contamination for the ground underneath

III. Regulatory Issues

A. Interim status (IS)

1. IS doesn/t automatically expire on 11/8
2. A letter is expected soon from EPA approving our application (made approximately 7/92) to change our IS to include the planned new process for sludge solidification. Approval has been delayed, reportedly, because of EPA concern about our use of ex-situ chlorination.
3. Approval of above IS application will also include approval of adequate storage capacity for the sludge we anticipate processing (approx. 6,000 CY). (Question: Does it also include sufficient capacity for the approx. 2,000 CY of sludge anticipated as a result of the residue from the evaporator operations which will be sent to Bldg 374 to be turned into saltcrete?)
4. If we dry A/B pond sludge and store it vs. solidifying it, we will have to submit a new request for a change in interim status, based on a substantial change in the process from that we described in our current pending change request. However,

we would have to file such a new change request prior to 11/8/92. The state, which has been vying with EPA for leadership in this area, might then choose this opportunity to require a new permit based on new storage on the pads and/or a change in process.

B. Closure Plan. We are not sure whether the state is going to require a RCRA closure plan.

C. RCRA Compliance. Currently, we are not in full compliance with RCRA because of:

1. Insufficient aisle space
2. Pumping a hazardous leachate (ITS) into the ponds, which are part of a RCRA partial closure

IV. Options

A. Terminate HNUS. Consolidate A/B sludge. Divert the ITS. Characterize by combination of historical, vertical, angle, and horiontal drilling. Don't process the sludge until Nevada opens.

B. Consolidate A/B sludge, then dry it and store it in unheated tents (or some building) until Nevada opens. Process C pond sludge, store it inheated tents or another heated structure until Nevada opens. Don't process remix or A/B dry sludge until Nevada opens. Be prepared to have to reprocess the solidified C pond material if the WAC have changed by the time Nevada open.

C. Same as next above, but figure out a way to store the C pond sludge without cementing it

D. Consolidate and solidify only A/B pond sludge in-situ in the ponds. Consider using the existing train design but simply pumping the sludge/cement/additive mixture back into one or more ponds and cap it with a RCRA closure. Pond(s) would need a new liner and other specially engineered changes. Process C pond sludge in the manner currently anticipated and store it until Nevada opens.

E. Consolidate and solidify all sludge in-situ in the ponds. Consider using the existing train design but simply pumping the sludge/cement/additive mixture back into one or more ponds and cap it with a RCRA closure.

F. Pump sludge into an engineered disposal tank, solidify it in the tank (or as it enters), and cap appropriately.

G. Other variations of the above are possible.

V. Delist the waste forms. (This route should be pursued in parallel with
Steps are:

A. Do a treatability study on candidate waste streams.

B. Demonstrate that the product meets LDR threshholds and/or will pass TCLP.

C. Analyze the waste forms via approved computer model to determine that LDR constituents (as treated) meet EPA guidelines.

D. Petition for delisting

E. Ship to NTS as straight Low Level waste (which they are accepting right now)

VI. Additional Ideas

A. Dry pond protection

1. Need to expedite the determination of how to keep contaminants from resuspending once A pond (and others) is dry? RFI/RI contractor (Applied Environmental) is working on it.

2. OU 4 manager wrote to Don Ferrier some time back specifiying the conition in which they needed to have the ponds turned over to them. (Get copy from Bruce Peterman)

B. Additional storage capacity for precessed sludge

1. Is additional storage capacity available from a transitioning building not anticipated for further use? Autar says we are claiming in the Transition Plan that several buildings have been identified as potentials for turning over to the private sector for economic development. Why couldn't waste be stored in them? (Everyone says, nothing is available any time soon, and that this is covered in the Transition Plan. If so, we need to precis the appropriate portion of the transition plan and make a couple of viewgraphs on this for our briefing and for Autar to give to Leo Duffy). It is also a regulatory issue. Nobody (regulators and operators) liks to use part of a building for waste storage. Makes problems moving it around, working around it, etc.

C. Autar wants one option to remove all sludge without cementing it (ablove list includes one)

D. After we flesh out the logical feasibility of several options which we want to pursue with further analysis, it might be good to have a roundtable meeting to discuss. Should include reps from:

1. Technology Development
2. RCRA cops
3. Cementation experts (Chris Langston/SRS and Dr. Lillian Wakefield/WES)
4. NEPA
5. Delisting expert (ERM)
6. HAZWRAP
7. Organizations with precedential experence in
   a) Technological approaches (e.g. Halliburton or the EPA SITE program)
   b) Delisting

E. W must keep working on the current baseline approach while we analyze more exotic ones.

F. It is important to attempt to quantify the effect of uncertainty in our assumptions and unknowns.